4. On-line melléklet. Molnár István: Az idegenfajú génátvitelt segítő strukturális genom
Doktori értekezéshez. A melléklet tartalmazza az Aegilops umbellulata és Ae. comosa kromoszó
primereit, valamint a markerek búza (Mv9kr1) és Aegilops keresztezési partnereken (Ae. biuncialis
addíciós vonalakon (1U-7U, 1M-7M) PCR segítségével történt validációjának eredményeit. A marke
kísérleti növényekre vonatkozó adatok megtalálhatók az értekezés 'Alkalmazott módszerek' c. feje

Aegilops kromoszóma specifikus markerek

Marker	Kromoszóma	Forward Primer
EST-alapú markerek		
BE443877	6U	GCTAGATTTCGTGGCCATTT
BE637251*	6U	CCGAACCAAATCCAAGACTG
BE604523*	5U	GGATCAAATTCCAAGTTAACTGCT
BE637853	6U	ATGCACCCAAAATGAGTCGT
BF473284	5U	CAGAGCTGGGAAGCTGGA
BE471156*	5U	TAAGGGCACAAATCCCAGAC
BE496824*	1U	TCCCAATCTCATCTCCAAGC
BE471203	1U	GCCACAACCGGTAACATTCT
BE444879	1U	GGTTGGATTATGAAGCTTTGGA
BE443789*	1U	CCCAAGAAACCAAACAACAAA
BE426097*	1U	GCGAGACTCCGAAAGTTGAC
BG606447*	1U	AGGTCAAGATGTCCCAGTGC
BE422954*	2U	
BG608068	6U	GACTGCTCTGACAGGCAACA
BE444305*	1M	CCTGGTGCCTGAGTTTGACT
BE518349	4U	ATCGGGTACAAGCACCAGTC
BE422834	5M	CAAACTCTGACGGCCTGAAT
BE498099	4U	ATCTGTTTACTGCGCGTTCC
BE442957*	5U	TCATAGCAATATCAACAAGACTCCA
BE497126*	4U	CTCGAGATGGACGCAAGAC
BM140591*	5U	TCTTGTCACTGCTCCTGGTG
BQ294679*	5U	GATCATCATCGCAGGCCTAT
BE442755*	7U	CTGCATCCTTCACCAGATCA
BE423703*	7U, 7M	TGCTTGTCGAGGAACCTCTT
BF484941	1U	CCGACGCAGTGCTTCTACT
BE497808	1U, 1M	CTACACAAGTCGCGGTTTCA
BF483072	7U, 7M	TCAGAGCATGATGGATTAGCC
BE499071	5M	CTTTGCCGCTAAGCAAGC
BF473832*	7U	TCTTCTGCCACCGCTTTACT
BF201452*	7U	GAACACACAGCAACCAATCG
BE404790*	7U	GCTCAAGCTCAGCAAGCTCT
BE590752	7U	GACGGAGCAGATGACGTAGG
BE590760*	1U	CGCGAAGAACAACAGAGTGA
BG607867*	1U	CTCTTCTCATCTGGCGGTTC
BE444824*	4U	CACAGGGTGACCTTCAACG
BM138536	3U	GGAGTAGGTCGCTCTTGCAC
BE498933	7U	GCTTCATCGCATTGTCAAGA
BG314194	3U	AAAGCAAGCAAGCAAGCACT
BE444113	5U	TCTCGGAGGAAAGCTTGAAC
Intron-targeting markerek		
Ae1U3441.1*	1U	AAAGGAGGTTGCTGGGGATATGAT
Ae1U14403.2	1U	CAGCTTCATCATCAAGAAGAAGGG
Ae2U10441.1*	2U	CCATCGTGATGCATTATTGGTGAA
Ae3U19.3*	3U	AAGTTCATTGCAGACAACTACAGC

Ae2U14986.1*	2U, 2M	GAGATCCTCCTCTCCACCTCC
Ae3U15137.1*	3U	GAGGACCAATTCGAGTGCTTTCTC
Ae3U17130.3*	3U	GGTGAGGTTCCATCTTCATCTCTT
Ae5U10541.4*	5U	ATCCTCAGCCCCGACGAAAT
Ae4U11426.3*	4U	TAGCTATGCTTTGGTTACTCGGTA
Ae4U15448.1*	4U	CATCATGGCAGAGTTTGTGGAG
Ae7U12319.2*	7U	TTCTCCAATGGCAGGGTTCC
Ae4U20523.1*	4U	CTTGGCAGGGACGTTATGGAG
Ae5U8072.1*	5U	GCATTGCCGTCTGGAAGTCG
Ae7U16619.2*	7U, 7M	CCATCGATGCCATGACTCCC
Ae7U29054.1*	7U	ACCCCTACCAAGTATCAGAGCTTA
Ae6U14697.1*	6U	CTACCTGGGGTTCCTCTACTTCAT
Ae4U24236.1	4U, 6U	GGAGCTCTTTACTCCTCCGTG
Ae5U23507.1 *	5U, 4M	GATGATCCCGAACCTACGCTAC
Ae1U9910.3*	1M	GTCATCCTCGTCTCCGATATCTTC
Ae2U6349.3*	2M	GATAGCACCTGGGACATTCGG

1L-1_U_2*	1U	GCACGACATACCAAGAAGCA
1L-2_M_1	1U	GCTTGGAATCTTCGTCCATC
1S-1_U_1	1U	TGCGCCTGACAGTCTCTG
1S-2_U_2*	1U	GCAACCAAGGTTGGCATATT
3L-1_M_5	1U, 3M	CTCAGGCGATGACCTTGACT
3L-2_U_1*	3U	ACGTACGCAGCAGGATAAGG
3S-1_U_3*	3U	GATTCCACCCAGTAGCAAGC
3S-4_U_2*	3U	AATGCCCTCATCAAGGACAC
3S-3_U_4	3U	AGTTCTTCACAGGCCACAGG
3L-3_U_3*	3U	TTGCTTGTTTCATCCAGTTCC
3L-3_U_8*	3U	TGGTATAATCGCGTCTGCTG
4L-2_U_3	3U	TGTTGGGTAGCGGATTGATT
4L-2_U_5	6U	GGATTGATTTGGCCTAGCAC
4S-1_U_1*	6U	ATAGCTTGGGCAGAGCGTAG
4S-1_M_3	6U, 4M	GCCCTCAATGACCAAATGTT
4S-2_U_3*	6U	GCAAGGAGACGAGGAAAGTG
4S-2_M_1	6U, 4M	TCCAAGTTCCAACTCAAATGG
5L-3_U_3	5U	GATCACACAACGACCGACAC
5L-3_U_5*	5U	GGCTGGATTCCTCTCTCTCC
5L-4_U_3	4U	GAAGAAGACGACGACGAAGG
5S-1_U_1*	5U	GCTTCGATGAGAGGGAGATG
5S-3_U_1*	5U	ACGCGTTGATGGACAAGAA
5S-5_U_2*	3U	GCTGCTGACGCCTGTATTTA
5S-5_U_4*	3U	TGGCATACATTGTGCAAACA
6S-1_U_2*	4U	GCGATGCTTGTGGAGTTTCT
7L-2_U_2*	7U	GCCACTCCGCATGATAATTT
7S-2_U_5*	7U	CCCAGAATGCCATGTGTGT
7S-4_U_1	7U	GTTGATCACGTGCCTGTTTC
2S-4_M_5	2M	TGCAGTGGCCAATTACTCAA
3L-2_M_1*	3M	CGCCACTTCCCATATTCCTA
3L-3_M_6*	3M	CACGATTAAACATGCCGTTG

4S-4_M_4	4M	AGATCTCGCAGCCAACTCAT
5S-4_U_4*	3M	TTAATATTCGGCCGCCAAG
6L-1_M_1*	6M	TTTCTGCACCATCCTGTCTG
6L-2_M_3*	6M	AAGCAAGCACCAAGACTCGT
6S-1_M_1*	6M	GACGGTGAAAGCGAGAGAAT
7L-1_M_2	3M, 7M	CCCGGATGCCAATACTCTTA
7L-2_M_2	3M, 7M	TTGCGCCAAATAATAACACG
7S-3_M_1	7M	ATTGCTCTTCCCGCTGAA

* yes/no polymorphism between wheat and *Aegilops*

Reverse Primer	Ta (°C)	Aegilops fajon adott amplic
CCTTAGCCCCTGCGTGACCC	60	200, 203, 211
GAAGACCATCGAAGAATCGT	60	173
TGTACATGGTAATCTGCAGG	60	210, 213
CCAAATATGACGAGTTGACC	60	185, 195
TGAAACAAACACCTTGGACATAT	60	245, 258
TTGAACCTGGCAATCAGGTT	60	343, 347
GGACTCTTGGGCACCGGC	60	153, 159
TCATTTTTGGCAGGTAGATC	60	210, 214
TGGACAGAATTCATTAACCAA	60	235
CAGCCGATGTATCAAGATTTTGA	60	245
CCGTGGTCTGGTGATTGCTC	60	191, 196
TACAAGCTACTAGGACACCT	60	221
	60	246, 252
CAGCTCCTGCCAAACTCGC	60	201
ATCAGCATCTCTTGTCTCTC	60	174, 178
GCCGCAGATGGCGCCGAGGC	60	320
TGGAAAGTTGAGGCCAGACT	60	244
CACGGACAAAACAGAAGGAC	60	302, 315
AGCGACGGCGGGAGCAGTATT	60	246, 251
AATTCGCTCACCTGCGTATG	60	340, 348
ACAGTGTGACCGTCTTGGCG	60	287
TATGTCCTTACAGAAATGCG	60	246
ACCGTTCAAACTCCTTCGTA	60	279
CGCGGCAGCTAGCATCTCTC	60	386
GGCAAAGCTCCGCCCGGC	60	178
CCCGCGGCGTGCTCAAGATC	60	1U: 279, 288; 1M: 244, 249
GTTCTGTCCGGGTTGTGGTG	60	206, 222, 226
GGATTACCGACCGTGGTGGG	60	370, 385
ATTCAGGAAAGCGTATGCAA	60	323
CTGGTCGCTGAGGCACCGGC	60	403
GGTATGAAATTAACACGGAT	60	431
TGTGCTCGTGCTGCTGCCG	60	260
CGCCTTTGAGAAAGCAGGAG	60	257, 261, 271
CGCGCCCCGGCGGTCCCGG	60	222, 237, 244
CCACATACTAAAGATGGATC	60	228, 232, 241
CCAACGTGTTCTCCTCTCTC	60	223, 229
CGTATCCCCTTGTGCGCACT	60	425
GAAGGCCGGCGTCTCGCGTG	60	362, 369
GGTTCGTCGCGTTGTCGATC	60	216

AGAGTGTGTATTGGGCTCTCAAAT	60	278
GCCACATGGATGGATATTGGAATC	60	266, 277
TGACACGTCATACACCACAACTTA	60	229, 241
GACATTGCTCAACGCTTATCAAGA	60	291

AGAAACATGATGCACCAAATTCGT	60	314, 322
TCCAAAACCAGCATGGACACTATA	60	328
GCTATACCAAGCTTCGTATTGCAG	60	205
TGGCTAGCTACAAATCGAAGCTAA	60	190
AGTAGTAATCAATGGCACGTCACT	60	281
ATAAGGTTTACTCAGCCAAACCCT	60	261
TGTATTCGGGTGTATTCTGGTCAG	60	254
GGTTCTGATCGGCATAAAAAGGAG	60	313, 324
CGCAAAACACTGTACCATTACTGT	60	249, 263
CAAAAGCGAAGACATACATACCCC	60	7U: 293, 296
ACGGATGGAGTACGAACCAATTAA	60	252
AGCATCGTCTCTACTACCCAGATA	60	356
AGTGCAAACCAGTTTATTCACGAG	60	322
CTTTAATGCCCATAGTGTCGTGTC	60	259, 269
CATATTCGGGTTGAACAGCAGTAC	60	330, 342
CGATTTGGCTAGCTGCTATTTTGA	60	400, 413

TTATGTGTAATGCTGAAGGG	60	326
ATGTACTCCATCCAATGCAG	60	434, 446
GTGGCCATGGATATGCAGCA	60	350
TGAATTCATATTCACCACGG	60	349
ATCTCGACACTTGCCTTTGC	60	402
GTGGGTCGGGTCGGGACGGG	60	213
GCACCGTTCGCGCGCGAG	60	290
TATGGATGGCAATTGTTTAT	60	284
AAAGTTGAGTCATCTATTTTG	60	206
AAGAGTGACATGTTTCTGAATATC	60	148
AGAAATAATTAAGACACTGC	60	353
ATGCGCTGTCGTAACCGGTT	60	251
ATCACTTCATGATAAGCTGG	60	235
CTTTCTAGGCATTTCAAATGAAC	60	257, 292
GGCGTGGGCCTCCGCGGCGG	60	334
GTCTCCTTGATATTTTATGC	60	259
GTGTCAAGTCTGTAACTTTG	60	330
ACCACCACCCTCCGGCCTGA	60	319
CTCCAATCATTCAGCATTAA	60	303
AATGCAACAGCACACACACG	60	338
CATTTCCTTCCAGCACATAT	60	364
CAAGCTAGAAAGTACTAGCA	60	262, 272
AAGCAAGGCTACGGCAGCAC	60	294
ACCAGCACCACGCCGAAGCT	60	179, 183
TCGGCTAGCTCACAAATAGT	60	170, 183
TGGCCGTACCTTACGCACTT	60	249
TTGTAAGTTGTAACGACGAC	60	307, 312
GATCGCTGCCGCCACCCAGA	60	243
GTGCTGCTTGTTAGAATTAC	60	345
ATCAGCATCCACGCGCAGGC	60	316
TCTCGTGTCTGGTCGTCGAT	60	239, 245

GTTAGTAGGTCGAATAGAAT	60	228
GCAACTGGAAGCGGCGTTCG	60	211, 215
ATACCAAACAGAGCATACTA	60	244
TGCCTTCAGTACGATATATA	60	337
CGGCTAGGCTCACAAATAGT	60	296, 308
AACTACCTTGACCCTAGAAT	60	358
CTTAGAGAGAGAGGGAGAGG	60	339, 348
ACGCTCAAGGGCCACGTCGA	60	166

on (bp)

Primer	Szekvencia	EST kromoszómális helyzete a búzán
BE443877_1F	GCTAGATTTCGTGGCCATTT	7DL
BE443877_1R	CCTTAGCCCCTGCGTGACCC	
BE489313_1F	TGCCTATGTCTGAAGGGAAAG	7DS
BE489313_1R	ATGGTCGCAGCCCTTCAAGA	
BE637251_1F	CCGAACCAAATCCAAGACTG	7DS
BE637251_1R	GAAGACCATCGAAGAATCGT	
BE604523_1F	GGATCAAATTCCAAGTTAACTGCT	7D
BE604523_ 1R	TGTACATGGTAATCTGCAGG	
BF146129_1F	GCTCTGCATCACTGCGATTA	7D
BF146129_1R	CAGGCAGCGAGTAGCTCCGG	
BE637853_1F	ATGCACCCAAAATGAGTCGT	7D
BE637853_1R	CCAAATATGACGAGTTGACC	
BE637759_1F	CCTTTCTCTTGGAGCCACAC	7D
BE637759_1R	AGGAGAGGAGAGATCCGGCG	
BF473284_1F	CAGAGCTGGGAAGCTGGA	7D
BF473284_1R	TGAAACAAACACCTTGGACATAT	
BE444824_1F	CACAGGGTGACCTTCAACG	7D
BE444824_1R	CCACATACTAAAGATGGATC	
BE471156_1F	TAAGGGCACAAATCCCAGAC	7D
BE471156_1R	TTGAACCTGGCAATCAGGTT	
BE444403_1F	GATGACGTTCGTGGTTTCTTT	6D
BE444403_1R	CACCCGACATGGCAAAGGCC	
BE590760_1F	CGCGAAGAACAACAGAGTGA	1D
BE590760_1R	CGCCTTTGAGAAAGCAGGAG	
BE496824_1F	TCCCAATCTCATCTCCAAGC	1D
BE496824_1R	GGACTCTTGGGCACCGGC	
BE471203_1F	GCCACAACCGGTAACATTCT	1D
BE471203_1R	TCATTTTTGGCAGGTAGATC	
BE444879_1F	GGTTGGATTATGAAGCTTTGGA	1D
BE444879_1R	TGGACAGAATTCATTAACCAA	
BE443789_1F	CCCAAGAAACCAAACAACAAA	1D
BE443789_1R	CAGCCGATGTATCAAGATTTTGA	

BE426097_1F BE426097_1R	TCCACGATGTCAGCAAATTC ATGGATGAGGTGCTGTCAGG	1D
BG606447_1F BG606447_1R	AGGTCAAGATGTCCCAGTGC TACAAGCTACTAGGACACCT	1D
BE422954_1F BE422954_1R	TCATCATCGTTGTGCTTGGT GTGACACGAGCAAGCTGGAT	7D
BG608068_1F BG608068_1R	GACTGCTCTGACAGGCAACA CAGCTCCTGCCAAACTCGC	1D
BG607867_3F BG607867_3R	CTCTTCTCATCTGGCGGTTC CGCGCCCCGGCGGTCCCGG	1D
BE497808_1F BE497808_1R	CTACACAAGTCGCGGTTTCA CCCGCGGCGTGCTCAAGATC	1D
BE444305_1F BE444305_1R	CCTGGTGCCTGAGTTTGACT ATCAGCATCTCTTGTCTCTC	1D
BE518349_1F BE518349_1R	ATCGGGTACAAGCACCAGTC GCCGCAGATGGCGCCGAGGC	6D
BM138382_1F BM138382_1R	TCTTCGAACAGAGCTCAGCA GGCATCCAAATGATCGTGCG	6D
BE422834_1F BE422834_1R	CAAACTCTGACGGCCTGAAT TGGAAAGTTGAGGCCAGACT	5D
BE498099_1F BE498099_1R	ATCTGTTTACTGCGCGTTCC CACGGACAAAACAGAAGGAC	6D
BE442957_1F BE442957_1R	TCATAGCAATATCAACAAGACTCCA AGCGACGGCGGGAGCAGTATT	5D
BE444113_1F BE444113_1R	TCTCGGAGGAAAGCTTGAAC GGTTCGTCGCGTTGTCGATC	5D
BE497126_1F BE497126_1R	CTCGAGATGGACGCAAGAC AATTCGCTCACCTGCGTATG	6D
BG314194_1F BG314194_1R	AAAGCAAGCAAGCAAGCACT GAAGGCCGGCGTCTCGCGTG	5D

BM140591_1F BM140591_1R	TCTTGTCACTGCTCCTGGTG ACAGTGTGACCGTCTTGGCG	5D
BQ294679_1F BQ294679_1R	GATCATCATCGCAGGCCTAT TATGTCCTTACAGAAATGCG	5D
BE438473_3F BE438473_3R	GCCTCACAACCACCGTCT ACAAACAGCAAGCATCACGAAT	5D
BE423485_1F BE423485_1R	TCTTGCCACGTAGTGATTGC CCAATTGAGCTGGTTGTTGA	1D
BE425918_2F BE425918_2R	TGCCCAAGAGTTGTGAGTTG CAGGTATGTACAAGCGCCTC	1D
BE442755_1F BE442755_1R	CTGCATCCTTCACCAGATCA ACCGTTCAAACTCCTTCGTA	7D
BE423703_1F BE423703_1R	TGCTTGTCGAGGAACCTCTT CGCGGCAGCTAGCATCTCTC	7D
BE422849_4F BE422849_4R	AGCTGAGTGGGTATCCCAAA AGTGAGTGGTCCAGTGATTA	7D
BE404790_2F BE404790_2R	GCTCAAGCTCAGCAAGCTCT GGTATGAAATTAACACGGAT	7D
BE444834_4F BE444834_4R	ATGAGCCACCTCCCTTCTCT GAAAGGAGGTGCTGCGTTTC	7D
BE499071_2F BE499071_2R	CTTTGCCGCTAAGCAAGC GGATTACCGACCGTGGTGGG	5D
BF484941_2F BF484941_2R	CCGACGCAGTGCTTCTACT GGCAAAGCTCCGCCCGGC	1D
BF201452_1F BF201452_1R	GAACACACAGCAACCAATCG CTGGTCGCTGAGGCACCGGC	7D
BM138536_2F BM138536_2R	TTCAGCCCTTGCTCTTGAGT CGTTGTAGAAGCAAGCCAAT	7D
BF473832 _1F BF473832 _1R	TCTTCTGCCACCGCTTTACT ATTCAGGAAAGCGTATGCAA	7D
BE499146_1F BE499146_1R	TGACTCCGCCTGTAATTTCC TCCAAGGAACCCAGTTGCGC	7D
BF483072_1F BF483072_1R	TCAGAGCATGATGGATTAGCC GTTCTGTCCGGGTTGTGGTG	7D

BE498933_1F	GCTTCATCGCATTGTCAAGA	7D
BE498933_1R	CGTATCCCCTTGTGCGCACT	
BE590752_1F	GACGGAGCAGATGACGTAGG	7D
BE590752_1R	TGTGCTCGTGCTGCTGCCG	

igen/nem polimorfizmus a búza és az *Aegilops biuncialis között*

A PCR termék méretében kimutatott polimorfizmus a búza és az Aegilops biuncialis l

EST kromoszómális helyzete az Aegilops U és M genomokban	Ta (°C)	Várt amplikon méret (bp)	Aegilops kontig
6U	60	205	jcf7180008104585_6u
6U	60	454	jcf7180008104965_6u
6U	60	163	jcf7180008084104_6u
5U	60	213	scf7180016137971_5u
6U	60	226	jcf7180008064551_6u
6U	60	184	jcf7180008018018_6u
6U	60	347	jcf7180008009648_6u
5U	60	285	scf7180016234841_5u
4U	60	207	scf7180015017324_4u
5U	60	338	scf7180016218894_5u
6U	60	156	jcf7180007988364_6u
1U	60	222	jcf7180008796900_1u
1U	60	159	jcf7180008728156_1u
1U	60	210	jcf7180008803114_1u
1U	60	235	jcf7180008700667_1u
1U	60	240	jcf7180008807277_1u

1U	60	193	jcf7180008691667_1u
1U	60	218	jcf7180008802590_1u
4U	60	250	scf7180015104530
6U	60	205	jcf7180008102694_1u
1U	60	209	jcf7180008730537_1u
6U	60	190	jcf7180008760647_1u
6U	60	156	jcf7180007989403_1u
4U	60	325	scf7180015018984_4u
4U	60	219	scf7180015075263_4u
5U	60	262	scf7180016267523_5u
4U	60	303	scf7180015074300_4u
5U	60	250	scf7180016198498_5u
5U	60	191	scf7180016237138_5u
4U	60	321	scf7180015027513_4u
5U	60	291	scf7180016124920_5u

5U	60	257	scf7180016096782_5u
5U	60	233	scf7180016099153_5u
2U	60	159	scf7180031623721_2u
1U	60	191	jcf7180008816288_1u
1U	60	388	jcf7180008815442_1u
7U	60	247	scf7180012027726_7u
7U	60	352	scf7180012061103_7u
7U	60	438	scf7180012152792_7u
7U	60	403	scf7180012057498_7u
7U	60	483	scf7180012100144_7u
2U	60	236	scf7180031591205_2u
1U	60	151	jcf7180008680768_1u
7U	60	383	scf7180012110717_7u
7U	60	257	scf7180012107412_7u
7U	60	307	scf7180012144445_7u
7U	60	290	scf7180012052822_7u
7U	60	181	scf7180012055104_7u

	7U	60	406	scf7180012143805_7u
	7U	60	240	scf7180012010334_7u

között

Indel méret (bp)	Mv9kr1 (bp)	Ae. biu. MvGB642 (bp)	Ae. umbellulata AE740/03 (UU) (bp)
25 del		200	200
		203	203
		211	211
33 ins	356		465
	458		
		488	488
18 del		173	173
16 ins			210
			213
21 ins	234		
		243	243
21 ins		185	185
		195	195
	235		
	246		
30 ins	151	151	151
		253	253
	405		
	418		
41 ins	245	245	245
		258	258
10 del		228	228
		232	232
		241	241
31 del		343	343
		347	347
12 del	159	159	159
	171		
		184	184
14 ins		257	257
		261	261
		271	271
6 del		153	153
		159	159
35 del		210	210
		214	214
	236		
11 del	228		
		235	235
17 ins		245	245

18 del		191	191
		196	196
18 ins		221	221
12 del		246	246
		252	252
21 ins		201	201
	221		
		222	222
		237	237
		244	244
8 del	200		
	215		
	231		
			279
			288
15 ins		174	
		178	
98 ins	302	302	
		320	320
	329	329	
	333	333	
12 ins	215		
	219	219	219
	225		
		233	233
15 ins		244	
	256	256	256
	260	260	260
	272	272	272
26 del		302	302
		315	315
	330		
	343		
20 del		246	246
		251	251
26 del		216	216
	240		
106 ins		340	340
		348	348
21 del	310		
	338		

		362 369	
84 ins		287	287
22 del		246	246
16 del	240 252		
		273	273
		283	283
3 del			223
	231	231	
8 del	404 414		
		420	420
36 ins		279	277
15 ins		386	386
170 ins	458 475	458	457
		480	480
16 del		431	431
76 ins	434 468		
		>500	>500
15 ins	257 263 266		
		370 385	
11 del		178	178
	189		
12 del	0	403	403
12 del	206 212		
		223	223
		229	229
16 del		323	323
12 ins		306	306
	319 331		
10 ins	186 190 195		

		205	205
		221	221
		225	225
10 del		425	425
	438	438	
24 del		260	260
	269		269
	272		272
	280		280

Primer name	Szekvencia	EST kromoszómális helyzete a búzán
BE443877_1F	GCTAGATTTCGTGGCCATTT	7DL
BE443877_1R	CCTTAGCCCCTGCGTGACCC	
BE637251_1F	CCGAACCAAATCCAAGACTG	7DS
BE637251_1R	GAAGACCATCGAAGAATCGT	
BE604523_1F	GGATCAAATTCCAAGTTAACTGCT	7D
BE604523_ 1R	TGTACATGGTAATCTGCAGG	
BE637853_1F	ATGCACCCAAAATGAGTCGT	7D
BE637853_1R	CCAAATATGACGAGTTGACC	
BF473284_1F	CAGAGCTGGGAAGCTGGA	7D
BF473284_1R	TGAAACAAACACCTTGGACATAT	
BE444824_1F	CACAGGGTGACCTTCAACG	7D
BE444824_1R	CCACATACTAAAGATGGATC	
BE471156_1F	TAAGGGCACAAATCCCAGAC	7D
BE471156_1R	TTGAACCTGGCAATCAGGTT	
BE590760_1F	CGCGAAGAACAACAGAGTGA	1D
BE590760_1R	CGCCTTTGAGAAAGCAGGAG	
BE496824_1F	TCCCAATCTCATCTCCAAGC	1D
BE496824_1R	GGACTCTTGGGCACCGGC	
BE471203_1F	GCCACAACCGGTAACATTCT	1D
BE471203_1R	TCATTTTTGGCAGGTAGATC	
BE444879_1F	GGTTGGATTATGAAGCTTTGGA	1D
BE444879_1R	TGGACAGAATTCATTAACCAA	
BE443789_1F	CCCAAGAAACCAAACAACAAA	1D
BE443789_1R	CAGCCGATGTATCAAGATTTTGA	
BE426097_1F	TCCACGATGTCAGCAAATTC	1D
BE426097_1R	ATGGATGAGGTGCTGTCAGG	
BG606447_1F	AGGTCAAGATGTCCCAGTGC	1D
BG606447_1R	TACAAGCTACTAGGACACCT	
BE422954_1F	TCATCATCGTTGTGCTTGGT	7D
BE422954_1R	GTGACACGAGCAAGCTGGAT	
BG608068_1F	GACTGCTCTGACAGGCAACA	1D
BG608068_1R	CAGCTCCTGCCAAACTCGC	
BG607867_3F	CTCTTCTCATCTGGCGGTTC	1D
BG607867_3R	CGCGCCCCGGCGGTCCCGG	
BE497808_1F	CTACACAAGTCGCGGTTTCA	1D
BE497808_1R	CCCGCGGCGTGCTCAAGATC	

BE444305_1F BE444305_1R	CCTGGTGCCTGAGTTTGACT ATCAGCATCTCTTGTCTCTC	1D
BE518349_1F BE518349_1R	ATCGGGTACAAGCACCAGTC GCCGCAGATGGCGCCGAGGC	6D
BE422834_1F BE422834_1R	CAAACTCTGACGGCCTGAAT TGGAAAGTTGAGGCCAGACT	5D
BE498099_1F BE498099_1R	ATCTGTTTACTGCGCGTTCC CACGGACAAAACAGAAGGAC	6D
BE442957_1F BE442957_1R	TCATAGCAATATCAACAAGACTCCA AGCGACGGCGGGAGCAGTATT	5D
BE444113_1F BE444113_1R	TCTCGGAGGAAAGCTTGAAC GGTTCGTCGCGTTGTCGATC	5D
BE497126_1F BE497126_1R	CTCGAGATGGACGCAAGAC AATTCGCTCACCTGCGTATG	6D
BG314194_1F BG314194_1R	AAAGCAAGCAAGCAAGCACT GAAGGCCGGCGTCTCGCGTG	5D
BM140591_1F BM140591_1R	TCTTGTCACTGCTCCTGGTG ACAGTGTGACCGTCTTGGCG	5D
BQ294679_1F BQ294679_1R	GATCATCATCGCAGGCCTAT TATGTCCTTACAGAAATGCG	5D
BE442755_1F BE442755_1R	CTGCATCCTTCACCAGATCA ACCGTTCAAACTCCTTCGTA	7D
BE423703_1F BE423703_1R	TGCTTGTCGAGGAACCTCTT CGCGGCAGCTAGCATCTCTC	7D
BE404790_2F BE404790_2R	GCTCAAGCTCAGCAAGCTCT GGTATGAAATTAACACGGAT	7D
BE499071_2F BE499071_2R	CTTTGCCGCTAAGCAAGC GGATTACCGACCGTGGTGGG	5D
BF484941_2F	CCGACGCAGTGCTTCTACT	1D

BF484941_2R	GGCAAAGCTCCGCCCGGC	
BF201452_1F	GAACACACAGCAACCAATCG	7D
BF201452_1R	CTGGTCGCTGAGGCACCGGC	
BM138536_2F	TTCAGCCCTTGCTCTTGAGT	7D
BM138536_2R	CGTTGTAGAAGCAAGCCAAT	
BF473832 _1F	TCTTCTGCCACCGCTTTACT	7D
BF473832 _1R	ATTCAGGAAAGCGTATGCAA	
BF483072_1F	TCAGAGCATGATGGATTAGCC	7D
BF483072_1R	GTTCTGTCCGGGTTGTGGTG	
BE498933_1F	GCTTCATCGCATTGTCAAGA	7D
BE498933_1R	CGTATCCCCTTGTGCGCACT	
BE590752_1F	GACGGAGCAGATGACGTAGG	7D
BE590752_1R	TGTGCTCGTGCTGCTGCCG	

igen/nem polimorfizmus a búza és az *Aegilops biuncialis között*
A PCR termék méretében kimutatott polimorfizmus a búza és az Aegilops biun

EST kromoszómális helyzete az Aegilops U és M genomokban	**Ta (°C)**	**Várt amplikon méret (bp)**	***Aegilops* kontig**
6U	60	205	jcf7180008104585_6u
6U	60	163	jcf7180008084104_6u
5U	60	213	scf7180016137971_5u
6U	60	184	jcf7180008018018_6u
5U	60	285	scf7180016234841_5u
4U	60	207	scf7180015017324_4u
5U	60	338	scf7180016218894_5u
1U	60	222	jcf7180008796900_1u
1U	60	159	jcf7180008728156_1u
1U	60	210	jcf7180008803114_1u
1U	60	235	jcf7180008700667_1u
1U	60	240	jcf7180008807277_1u
1U	60	193	jcf7180008691667_1u
1U	60	218	jcf7180008802590_1u
4U	60	250	scf7180015104530
6U	60	205	jcf7180008102694_1u
1U	60	209	jcf7180008730537_1u
6U	60	190	jcf7180008760647_1u

6U	60	156	jcf7180007989403_1u
4U	60	325	scf7180015018984_4u
5U	60	262	scf7180016267523_5u
4U	60	303	scf7180015074300_4u
5U	60	250	scf7180016198498_5u
5U	60	191	scf7180016237138_5u
4U	60	321	scf7180015027513_4u
5U	60	291	scf7180016124920_5u
5U	60	257	scf7180016096782_5u
5U	60	233	scf7180016099153_5u
7U	60	247	scf7180012027726_7u
7U	60	352	scf7180012061103_7u
7U	60	403	scf7180012057498_7u
2U	60	236	scf7180031591205_2u
1U	60	151	jcf7180008680768_1u

7U	60	383	scf7180012110717_7u
7U	60	257	scf7180012107412_7u
7U	60	307	scf7180012144445_7u
7U	60	181	scf7180012055104_7u
7U	60	406	scf7180012143805_7u
7U	60	240	scf7180012010334_7u

cialis között

Indel méret (bp)	Mv9kr1 (bp)	Ae. biu. MvGB642 (bp)	Ae. biu. MvGB642 amfiploid (bp)	1U (bp)	2U (bp)	3U (bp)	4U (bp)
25 del		200	200				
		203	203				
		211	211				
18 del		173	173				
16 ins							
21 ins		185	185				
		195	195				
	235		235	235	235	235	235
	246		246	246	246	246	246
41 ins	245	245	245	245	245	245	245
		258	258				
10 del		228	228				228
		232	232				232
		241	241				241
31 del		343	343				
		347	347				
14 ins		257	257	257			
		261	261	261			
		271	271	271			
6 del		153	153	153			
		159	159	159			
35 del		210	210	210			
		214	214	214			
	236		236	236	236	236	236
11 del	228		228	228	228	228	228
		235	235	235			
17 ins		245	245	245			
18 del		191	191	191			
		196	196	196			
18 ins		221	221	221			
12 del		246	246		246		
		252	252		252		
21 ins		201	201				
	221		221	221	221	221	221
		222	222	222			
		237	237	237			
		244	244	244			
8 del	200		200	200	200	200	200
	215		215	215	215	215	215
	231		231	231	231	231	231

			244				
			249				
			263				
			279	279			
			288	288			
15 ins		174	174				
		178	178				
98 ins	302	302	302	302	302	302	302
		320	320				320
	329	329	329	329	329	329	329
	333	333	333	333	333	333	333
15 ins		244	244				
	256	256	256	256	256	256	256
	260	260	260	260	260	260	260
	272	272	272	272	272	272	272
26 del		302	302				302
		315	315				315
	330		330	330	330	330	330
	343		343	343	343	343	343
20 del		246	246				
		251	251				
26 del		216	216				
	240		240	240	240	240	240
106 ins		340	340				340
		348	348				348
21 del	310		310	310	310	310	310
	338		338	338	338	338	338
		362	362			362	
		369	369			369	
84 ins		287	287				
22 del		246	246				
36 ins		279	279				
15 ins		386	386				
16 del		431	431				
15 ins	257		257	263	265	267	269
	263		263	542	635	728	821
	266		266	566	666	766	866
		370	370				
		385	385				
11 del		178	178	178			

	189		189	189	189	189	189
12 del		403	403				
12 del	206		206	206	206	208	206
	212		212	212	212	214	212
		223	223			223	
		229	229			229	
16 del		323	323				
10 ins	186		186	186	186	186	186
	190		190	190	190	190	190
	195		195	195	195	195	195
		205	205				
		221	221				
		225	225				
10 del		425	425				
	438	438	438	438	438	438	438
24 del		260	260				
	269		269	269	269	269	269
	272		272	272	272	272	272
	280		280	280	280	280	280

5U (bp)	6U (bp)	7U (bp)	1M (bp)	2M (bp)	3M (bp)	4M (bp)	5M (bp)	6M (bp)	7M (bp)
	200 203 211								
	173								
210 213									
	185 195								
235	235	235	235	235	235	235	235	235	235
246	246	246	246	246	246	246	246	246	246
245	245	245	245	245	245	245	245	245	245
258									
343 347									
236	236	236	236	236	236	236	236	236	236
228	228	228	228	228	228	228	228	228	228
	201								
221	221	221	221	221	221	221	221	221	221
200	200	200	200	200	200	200	200	200	200
215	215	215	215	215	215	215	215	215	215
231	231	231	231	231	231	231	231	231	231

			244 249 263						
			174 178						
302	302	302	302	302	302	302	302	302	302
329 333	329 333	329 333	329 333	329 333	329 333	329 333	329 333	329 333	329 333
							244		
256 260 272	256 260 272	256 260 272	256 260 272	256 260 272	256 260 272	256 260 272	256 260 272	256 260 272	256 260 272
330 343	330 343	330 343	330 343	330 343	330 343	330 343	330 343	330 343	330 343
246 251									
216 240	240	240	240	240	240	240	240	240	240
310 338	310 338	310 338	310 338	310 338	310 338	310 338	310 338	310 338	310 338
287									
246									
		279							
		386							386
		431							
271 914 966	273 1007 1066	275 1100 1166	277 1193 1266	279 1286 1366	281 1379 1466	283 1472 1566	285 1565 1666 370 385	287 1658 1766	289 1751 1866

189	189	189	189	189	189	189	189	189	189
		403							
206	206	206	206	206	206	206	206	206	206
212	212	212	212	212	212	212	212	212	212
		323							
186	186	186	186	186	186	186	186	186	186
190	190	190	190	190	190	190	190	190	190
195	195	195	195	195	195	195	195	195	195
		205							205
		221							221
		225							225
		425							
438	438	438	438	438	438	438	438	438	438
		260							
269	269	269	269	269	269	269	269	269	269
272	272	272	272	272	272	272	272	272	272
280	280	280	280	280	280	280	280	280	280

Primer	Szekvencia
Ae1U3441.1_1F	AAAGGAGGTTGCTGGGGATATGAT
Ae1U3441.1_1R	AGAGTGTGTATTGGGCTCTCAAAT
Ae1U9910.3_1F	GTCATCCTCGTCTCCGATATCTTC
Ae1U9910.3_1R	CATATTCGGGTTGAACAGCAGTAC
Ae1U14403.2_1F	CAGCTTCATCATCAAGAAGAAGGG
Ae1U14403.2_1R	GCCACATGGATGGATATTGGAATC
Ae2U6349.3_1F	GATAGCACCTGGGACATTCGG
Ae2U6349.3_1R	CGATTTGGCTAGCTGCTATTTTGA
Ae2U10441.1_1F	CCATCGTGATGCATTATTGGTGAA
Ae2U10441.1_1R	TGACACGTCATACACCACAACTTA
Ae2U11898.3_1F	GAGTGGTTCTCCATCATCACCAC
Ae2U11898.3_1R	AAAACTGTGCAACTAATTAGGGCC
Ae2U14986.1_1F	GAGATCCTCCTCTCCACCTCC
Ae2U14986.1_1R	AGAAACATGATGCACCAAATTCGT
Ae2U27975.1_1F	ATGGATACTTCCCGGTGGCATT
Ae2U27975.1_1R	GAAACAGGGCCTAAACCTAGAAGA
Ae2U30271.1_1F	ATTCCATTTACACCTCGTGCAAAG
Ae2U30271.1_1R	AAACCCATAAGATCTCGTGACCAA
Ae2U33079.2_1F	CTTGTACAGGATGCCGCCATC
Ae2U33079.2_1R	CGAGATCTTAGGAAAGGATCGGTT
Ae3U19.3_1F	AAGTTCATTGCAGACAACTACAGC
Ae3U19.3_1R	GACATTGCTCAACGCTTATCAAGA
Ae3U11239.1_1F	TACAAGGTGTTCCTCAAGCAGTAC
Ae3U11239.1_1R	GCAGTCCACAACAATCATTTAGCT
Ae3U15137.1_1F	GAGGACCAATTCGAGTGCTTTCTC
Ae3U15137.1_1R	TCCAAAACCAGCATGGACACTATA
Ae3U17130.3_1F	GGTGAGGTTCCATCTTCATCTCTT
Ae3U17130.3_1R	GCTATACCAAGCTTCGTATTGCAG
Ae4U11426.3_1F	TAGCTATGCTTTGGTTACTCGGTA
Ae4U11426.3_1R	AGTAGTAATCAATGGCACGTCACT
Ae4U15448.1_1F	CATCATGGCAGAGTTTGTGGAG
Ae4U15448.1_1R	ATAAGGTTTACTCAGCCAAACCCT
Ae4U20523.1_1F	CTTGGCAGGGACGTTATGGAG
Ae4U20523.1_1R	GGTTCTGATCGGCATAAAAAGGAG
Ae4U24236.1_1F	GGAGCTCTTTACTCCTCCGTG
Ae4U24236.1_1R	AGTGCAAACCAGTTTATTCACGAG
Ae4U24786.3_1F	GAGCCTGGATCTTGTTCCTATAGG
Ae4U24786.3_1R	AGTAAGTTTTCTGTTTGCTCTCGC
Ae5U8072.1_1F	GCATTGCCGTCTGGAAGTCG
Ae5U8072.1_1R	CGCAAAACACTGTACCATTACTGT
Ae5U10541.4_1F	ATCCTCAGCCCCGACGAAAT
Ae5U10541.4_1R	TGGCTAGCTACAAATCGAAGCTAA

Ae5U23507.1_1F	GATGATCCCGAACCTACGCTAC
Ae5U23507.1_1R	CTTTAATGCCCATAGTGTCGTGTC
Ae5U24890.1_1F	TGTCAAGAAGATTTAGAGGAAGGGG
Ae5U24890.1_1R	ACTAGTTGCGACAGAATCAGTTCT
Ae6U35.3_1F	TCTTCGACTACCCGCCCATC
Ae6U35.3_1R	ATCACGGTCATTAGTCGATGGATT
Ae6U14697.1_1F	CTACCTGGGGTTCCTCTACTTCAT
Ae6U14697.1_1R	AGCATCGTCTCTACTACCCAGATA
Ae6U18742.1_1F	TGTACCGAATGGAAGCCTTGATAA
Ae6U18742.1_1R	AGCTATGCAAGATACTAGCGTGAA
Ae7U12319.2_1F	TTCTCCAATGGCAGGGTTCC
Ae7U12319.2_1R	TGTATTCGGGTGTATTCTGGTCAG
Ae7U16619.2_1F	CCATCGATGCCATGACTCCC
Ae7U16619.2_1R	CAAAAGCGAAGACATACATACCCC
Ae7U29054.1_1F	ACCCCTACCAAGTATCAGAGCTTA
Ae7U29054.1_1R	ACGGATGGAGTACGAACCAATTAA

igen/nem polimorfizmus a búza és az *Aegilops biuncialis között*
A PCR termék méretében kimutatott polimorfizmus a búza és az

EST kromoszómális helyzete az Aegilops U és M genomokban	Ta (°C)	Várt amplikon méret (bp)	Aegilops kontig	Mv9kr1 (bp)
1U	60 60		jcf7180008687054_1u	
1U	60 60		jcf7180008727289_1u	
1U	60 60		jcf7180008754674_1u	 294 306
2U	60 60		scf7180031500989_2u	
2U	60 60		scf7180031526583_2u	
2U	60 60		scf7180031530313_2u	216
2U	60 60		scf7180031550806_2u	
2U	60 60		scf7180031615142_2u	287
2U	60 60		scf7180031620202_2u	
2U	60 60		scf7180031628931_2u	
3U	60 60		scf7180011337793_3u	
3U	60 60		scf7180011397884_3u	271
3U	60 60		scf7180011420914_3u	
3U	60 60		scf7180011430717_3u	
4U	60 60		scf7180015005787_4u	
4U	60 60		scf7180015048300_4u	
4U	60 60		scf7180015074762_4u	
4U	60 60		scf7180015104526_4u	 360
4U	60 60		scf7180015107757_4u	242
5U	60 60		scf7180016146477_5u	
5U	60 60		scf7180016157277_5u	

5U	60 60	scf7180016269361_5u	
5U	60 60	scf7180016279488_5u	404
6U	60 60	jcf7180007988325_6u	197 200
6U	60 60	jcf7180008037699_6u	
6U	60 60	jcf7180008045881_6u	
7U	60 60	scf7180012053322_7u	
7U	60 60	scf7180012061167_7u	
7U	60 60	scf7180012116687_7u	

Aegilops biuncialis között

Ae. biu. MvGB642 (bp)	Ae. umbellulata AE740/03 (UU) (bp)
278	278
330 342	
266 277	266 277
400 413	
229 241	229 241
232	
314 322	314 322
301	
278	
295	
291	291
264	
324	328
201	205
281	281
261	261
313 324	313 324
322	322
221	
249 263	249 263
190	190

259	259
269	269
379	
212	
217	
356	
289	
254	254
296	296
300	300
252	252

Primer név	Szekvencia	EST kromoszómális helyzete az Aegilops U és M genomokban
Ae1U3441.1_1F	AAAGGAGGTTGCTGGGGATATGAT	1U
Ae1U3441.1_1R	AGAGTGTGTATTGGGCTCTCAAAT	
Ae1U9910.3_1F	GTCATCCTCGTCTCCGATATCTTC	1U
Ae1U9910.3_1R	CATATTCGGGTTGAACAGCAGTAC	
Ae1U14403.2_1F	CAGCTTCATCATCAAGAAGAAGGG	1U
Ae1U14403.2_1R	GCCACATGGATGGATATTGGAATC	
Ae2U6349.3_1F	GATAGCACCTGGGACATTCGG	2U
Ae2U6349.3_1R	CGATTTGGCTAGCTGCTATTTTGA	
Ae2U10441.1_1F	CCATCGTGATGCATTATTGGTGAA	2U
Ae2U10441.1_1R	TGACACGTCATACACCACAACTTA	
Ae2U14986.1_1F	GAGATCCTCCTCTCCACCTCC	2U
Ae2U14986.1_1R	AGAAACATGATGCACCAAATTCGT	
Ae3U19.3_1F	AAGTTCATTGCAGACAACTACAGC	3U
Ae3U19.3_1R	GACATTGCTCAACGCTTATCAAGA	
Ae3U15137.1_1F	GAGGACCAATTCGAGTGCTTTCTC	3U
Ae3U15137.1_1R	TCCAAAACCAGCATGGACACTATA	
Ae3U17130.3_1F	GGTGAGGTTCCATCTTCATCTCTT	3U
Ae3U17130.3_1R	GCTATACCAAGCTTCGTATTGCAG	
Ae4U11426.3_1F	TAGCTATGCTTTGGTTACTCGGTA	4U
Ae4U11426.3_1R	AGTAGTAATCAATGGCACGTCACT	
Ae4U15448.1_1F	CATCATGGCAGAGTTTGTGGAG	4U
Ae4U15448.1_1R	ATAAGGTTTACTCAGCCAAACCCT	
Ae4U20523.1_1F	CTTGGCAGGGACGTTATGGAG	4U
Ae4U20523.1_1R	GGTTCTGATCGGCATAAAAAGGAG	
Ae4U24236.1_1F	GGAGCTCTTTACTCCTCCGTG	4U
Ae4U24236.1_1R	AGTGCAAACCAGTTTATTCACGAG	
Ae5U8072.1_1F	GCATTGCCGTCTGGAAGTCG	5U
Ae5U8072.1_1R	CGCAAAACACTGTACCATTACTGT	
Ae5U10541.4_1F	ATCCTCAGCCCCGACGAAAT	5U
Ae5U10541.4_1R	TGGCTAGCTACAAATCGAAGCTAA	
Ae5U23507.1_1F	GATGATCCCGAACCTACGCTAC	5U
Ae5U23507.1_1R	CTTTAATGCCCATAGTGTCGTGTC	
Ae6U14697.1_1F	CTACCTGGGGTTCCTCTACTTCAT	6U
Ae6U14697.1_1R	AGCATCGTCTCTACTACCCAGATA	
Ae7U12319.2_1F	TTCTCCAATGGCAGGGTTCC	7U
Ae7U12319.2_1R	TGTATTCGGGTGTATTCTGGTCAG	
Ae7U16619.2_1F	CCATCGATGCCATGACTCCC	7U
Ae7U16619.2_1R	CAAAAGCGAAGACATACATACCCC	
Ae7U29054.1_1F	ACCCCTACCAAGTATCAGAGCTTA	7U
Ae7U29054.1_1R	ACGGATGGAGTACGAACCAATTAA	

igen/nem polimorfizmus a búza és az *Aegilops biuncialis között*
A PCR termék méretében kimutatott polimorfizmus a búza és az Aegilops biuncialis

Ta (°C)	Várt amplikon méret (bp)	Aegilops kontig	Mv9kr1 (bp)	Ae. biu. MvGB642 (bp)	Ae. biu. MvGB642 amfiploid (bp)
60		jcf7180008687054_1u		278	278
60					
60		jcf7180008727289_1u		330	330
60				342	342
60		jcf7180008754674_1u		266	266
60				277	277
			294		294
			306		306
60		scf7180031500989_2u		400	400
60				413	413
60		scf7180031526583_2u		229	229
60				241	241
60		scf7180031550806_2u		314	314
60				322	322
60		scf7180011337793_3u		291	291
60					
60		scf7180011420914_3u		324	328
60					
60		scf7180011430717_3u		201	205
60					
60		scf7180015005787_4u		281	281
60					
60		scf7180015048300_4u		261	261
60					
60		scf7180015074762_4u		313	313
60				324	324
60		scf7180015104526_4u		322	322
60			360		360
60		scf7180016146477_5u		249	249
60				263	263
60		scf7180016157277_5u		190	190
60					
60		scf7180016269361_5u		259	259
60				269	269
60		jcf7180008037699_6u		356	
60					
60		scf7180012053322_7u		254	254
60					
60		scf7180012061167_7u		296	296
60				300	300
60		scf7180012116687_7u		252	252
60					

is között

1U (bp)	2U (bp)	3U (bp)	4U (bp)	5U (bp)	6U (bp)	7U (bp)	1M (bp)	2M (bp)	3M (bp)	4M (bp)	5M (bp)	6M (bp)
278												
							330 342					
266 277 294 306	294 306	294 306	294 306	294 306	294 306	294 306	294 306	294 306	294 306	294 306	294 306	294 306
								400 413				
	229 241											
	314 322							314 322				
		291										
		328										
		205										
			281									
			261									
			313 324									
360	360	360	322 360	360	322 360	360	360	360	360	360	360	360
				249 263								
				190								
				259 269						259 269		
					356							
						254						
						296 300						
						252						

7M (bp)

294
306

360

296
300